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size depending a good deal upon the haunt of the whale; some regions having larger specimens than others. If the whales are descendants of our marine carnivora we should expect them to preserve something like the same growth rates, for this feature seems to be tolerably permanent in any group of related animals. The rate of growth, deducible from the observations of the practical students of the whale, coincides pretty closely with what we should be inclined to expect on the supposition that the cetacea were descended from some ancestor like the marine carnivora.

The great decline of the whale fishery in all countries seems likely to deprive us of the ill-used opportunities, which naturalists have long had, of making themselves acquainted with the habits of the greatest of the mammals. There are many questions which should be discussed and settled before the class of clear headed and observant whalemen has passed away; else we may remain for centuries without a competent knowledge of the ways of this, the greatest living monument of animal life.

OUR POISONOUS PLANTS.

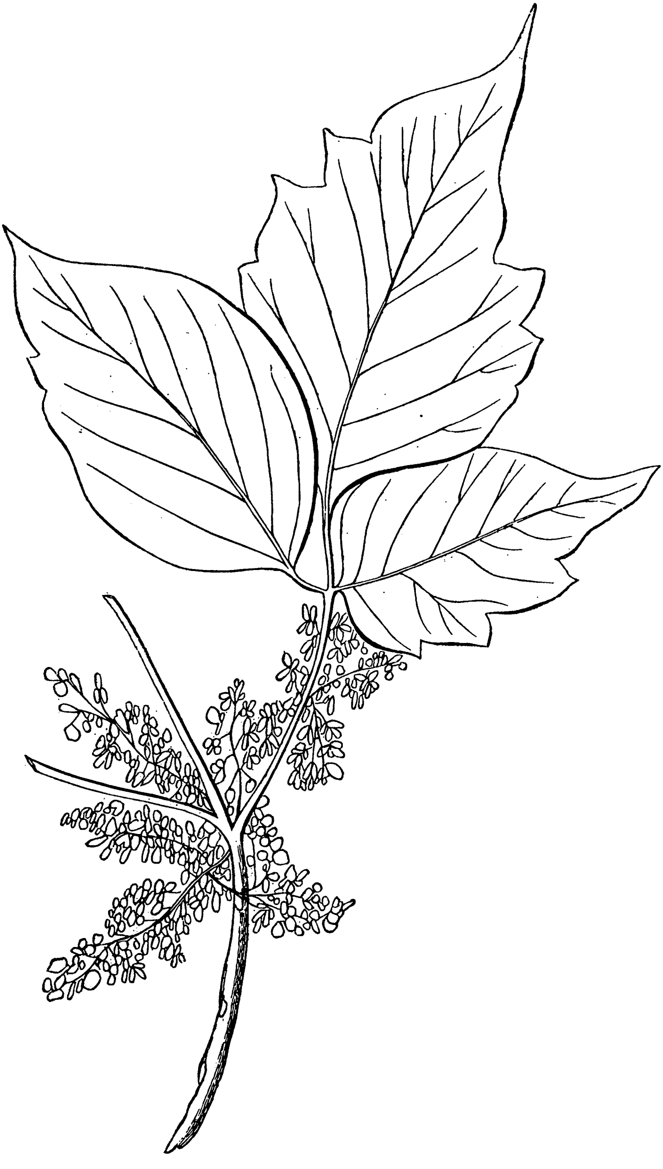
BY W. W. BAILEY.

THE poisonous plants of our northern woods are not so numerous but that they may easily be learned. Of them certain members of the sumac family (*Anacardiaceæ*) have the most evil reputation. To this order belong the so-called dogwood (*Rhus venenata*), and the poison-ivy (*Rhus toxicodendron*). The dogwood must not be confounded with the beautiful *Cornus florida*, which unfortunately bears the same familiar name. This tree is perfectly innocent and is so highly ornamental that it would be a shame if through simple ignorance it should ever be cut down.

There are two varieties of *Rhus toxicodendron*, distinguished by slight differences in the leaves. When these are cut-lobed, the plant is *R. toxicodendron* (Fig. 1); when entire, it bears the name of *R. radicans.* Some authors have considered them distinct species, but there is no doubt they are merely modifications of one. Both forms are occasionally mistaken for the Virginian creeper (*Ampelopsis quinquefolia*, Fig. 2) to which the climbing forms bear little resemblance. They may, however, be always distinguished from that graceful plant by the three leaflets on a stem, and by the mossy aggregation of roots by which they adhere to trees and rocks. The Virginian creeper, on the contrary, has *five* leaflets and is furnished with tendrils which expand into sucker-like disks to assist the plant in climbing. It turns a vivid crimson in autumn, and as it is seen climbing some evergreen or trailing over a stone wall is one of the chief ornaments of that season. The poison-ivy also colors beautifully, but I think much sooner, and the tints are different, bright yellow, orange, or mahogany. Many persons have been induced, by their own ignorance or the superficial knowledge of their friends, to avoid or even destroy the harmless woodbine, or else have suffered by a too free handling of its mischievous neighbor. I say neighbor, as the two are often found near together and are similar in their habits of growth. The poison-ivy is very common, and may even be seen embracing the fences or wrapping large trees with its snaky branches. It is said sometimes to invest trees so closely as to cause their death. However that may be, I have seen its foliage entirely replace that of some lofty elm, now dead, and dependent alone for its beauty upon the plant the growth of which it had assisted.

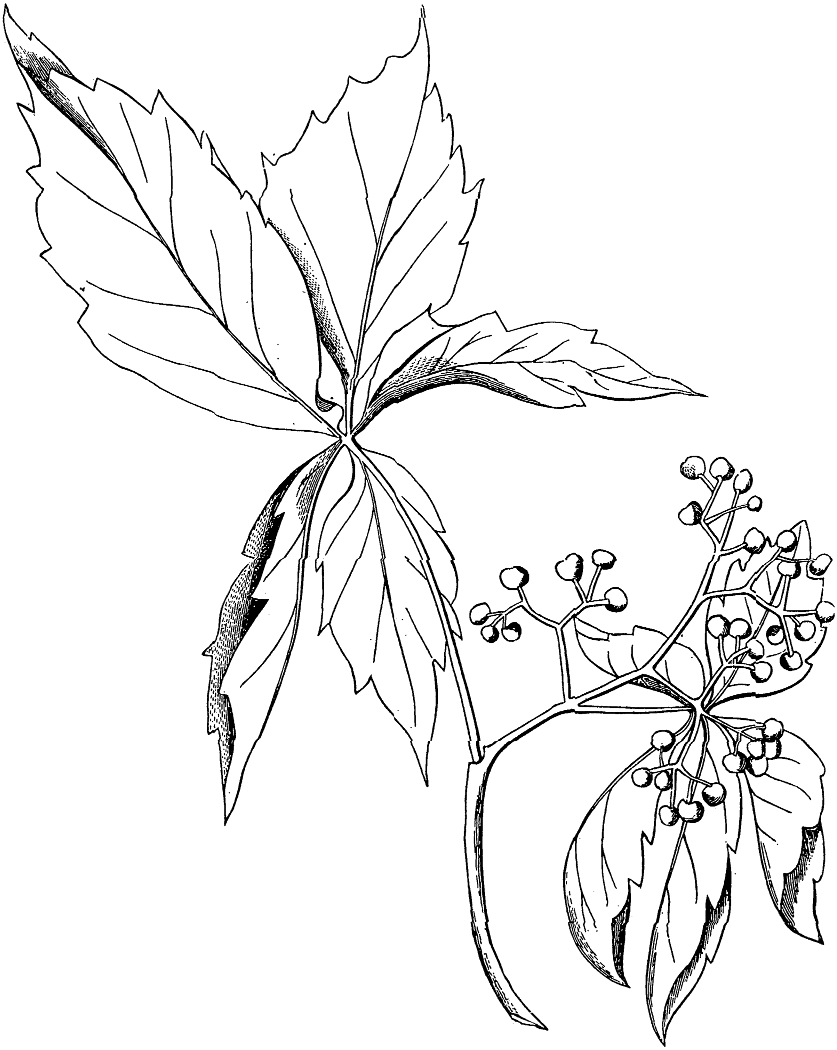
A more dangerous plant, yet one of the most beautiful trees which we meet in swamps, is the poison-dogwood (*Rhus venenata* Fig. 3). It has from seven to thirteen leaflets on a common stalk, an odd one terminating the series. Its autumn coloring is magnificent, passing from green through a bright yellow, to crimson and scarlet, the midrib remaining in each case an intense red. Thoreau says, somewhere, that the plant appears to "blush for its sins." With its smooth gray bark and pinnate foliage it is conspicuous always, and when once known is easily remembered, but the desired information is often the result of a sad experience. Painful swellings, inflammation, and intense itchings are to many the result of contact with it, or even with the less noxious *Rhus toxicodendron.* Some persons are even affected by passing near, while others may handle it with absolute impunity. It is said, however, that even the chosen few are not always exempt from its influence, a profuse perspiration or some unusual condition of the system rendering those susceptible who usually have no cause to fear. I have myself often squeezed the leaves in my hands, and never avoid the tree when it lies in my way,

Fig. 1.



Poison Ivy (Rhus toxicodendron).

Fig. 2.

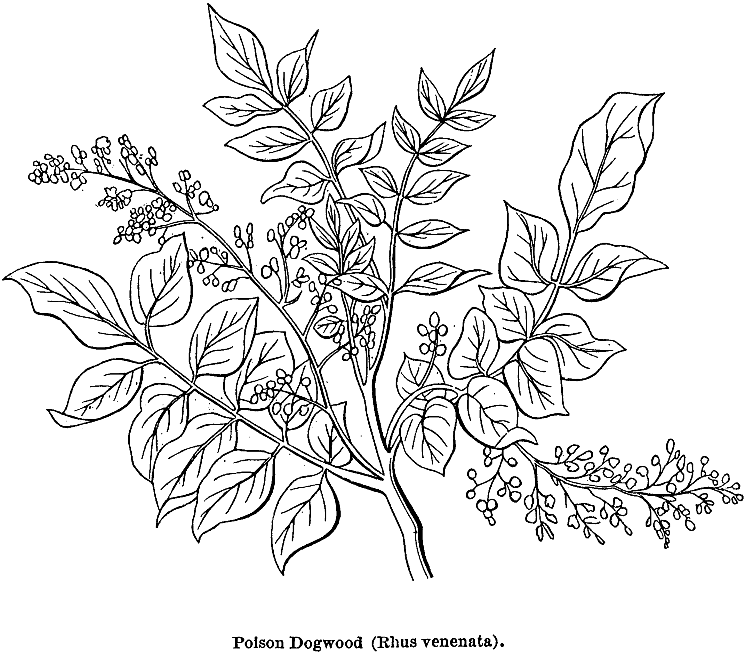


Virginia Creeper (Ampelopsis quinquefolia).

and I have as yet experienced no consequent suffering. The poisonous property of these plants appears to reside in the resinous juice, and may be removed by boiling and evaporation. Upon exposure to the air the juice blackens and forms an indelible ink.

The *Ranunculaceæ*, or crowfoot family, form a very suspicious order of plants; those which are not absolutely poisonous having generally an acrid or bitter juice. *Ranunculus acris* is especially caustic, and when fresh is avoided by cattle. Drying appears to remove the poison. This is the tallest of our buttercups, with leaves "three divided; *the divisions all sessile* and three cleft or parted, their segments cut into lanceolate or linear crowded lobes." When taken internally some of the buttercups will produce dangerous symptoms, but this is an accident not very liable to happen, as their blistering tendency would cause them to be rejected without swallowing.

Fig. 3.



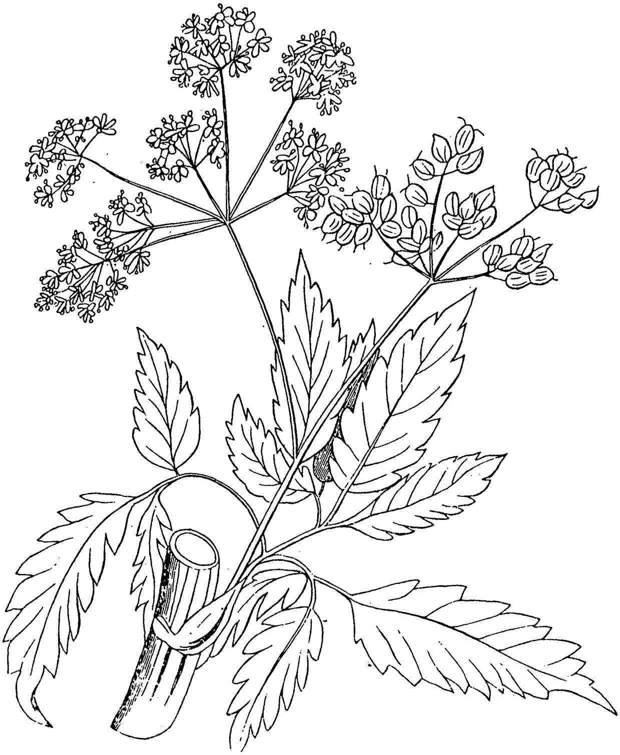
Poison Dogwood (Rhus venenata).

Fatal mistakes have occurred when persons have eaten the root of the monkshood (*Aconitum Napellus*) in early spring ere the leaves served to distinguish it, thinking it to be horseradish. It is an introduced plant and will only be met with in cultivation, or in old gardens or waste places, and it is so generally known to all, that I will not delay to describe it. I will mention, however, a peculiar tingling sensation which it produces when applied to the tongue, an effect of some duration. The anemones, the larkspurs (*Delphinium*), and the bane-berries (*Actœa*) all contain in greater or less degree an active principle which becomes dissipated upon drying as in the case of the buttercups. Even the pretty roots of the common gold-thread (*Coptis trifolia*) are intensely bitter, and are sometimes used as a cure for children afflicted with diseases of the mouth. As a rule it is well to be cautious in our treatment of any plant the characters of which indicate that it belongs to the *Ranunculaceœ.*

The parsley family (*Umbelliferœ*) may be recognized by the small, generally white or yellow flowers, disposed in spreading umbels, with mostly compound leaves, often very delicately dissected, as in the common carrot (*Daucus carota*). The flowers and leaves of this plant, or of the parsnip or parsley, will serve as types of the whole order, to which belong many of our most noxious plants as well as wholesome vegetables. The species, owing to their similarity and the minuteness of the inflorescence, are difficult to distinguish and in consequence it can not be certainly affirmed how many are injurious. They are determined mostly from the seeds and flowers.

This, like the last, is a suspicious order, the more so, perhaps, from the fact of its containing certain edible members, for which their noxious relatives may be mistaken. Accidents are therefore of quite frequent occurrence, especially among children. Our native water-hemlock (*Cicuta maculata*, Fig. 4) is very poisonous. It is said that "a drachm of the fresh root has killed a boy in an hour and a half!" The plant is far too common for safety, and is found in swamps and wet places, even within the limits of our cities. It is a tall, rank herb, the smooth stems streaked with purple, the flowers white, and the veins of the compound leaves terminating in the notches. Still more to be avoided is the introduced hemlock (*Conium maculatum*) which has a very similar habit and appearance. It has smooth, spotted stems, and an offensive mousy smell, which treatment with potash brings out more strongly. It is supposed to be the poison by which the ancients eliminated their troublesome politicians, and if this were not a serious article I might perhaps grow facetious, and suggest its use at the present time. It is now employed to some extent in medicine. Its name "hemlock" is an unfortunate one, as it is shared with that most elegant spruce, the *Abies Canadensis*, and I have known nervous people to avoid the latter for the sins of its fearful namesake. It is said that the well known celery which belongs to this family and grows wild in England is, in its native state, dangerous for food, and is only made palatable and innocuous by the process of bleaching to which it is subjected. The active principle can only be developed with free access of light.

Fig. 4.



Water Hemlock (Cicuta maculata).

The nightshade, like the parsley family, contains both edible and poisonous plants. The potato (*Solanum tuberosum*), the egg-plant

(*Solanum melongena*), the tomato (*Lycopersicum esculentum*), the strawberry tomato (*Physalis*), are well known esculent vegetables; but even with these, certain portions of the plant are often poisonous or narcotic, as in the case of the potato, where the berries and leaves are injurious. I once saw a boy in New Brunswick eating the large green potato berries, but to my mild remonstrance he replied that he had often done so before without any resulting trouble. It would therefore appear that if actually dangerous, the fruit may not be so to all constitutions.

It is doubtful whether the bright red berries of the bitter-sweet (*Solanum dulcamara*) are in any degree injurious, but so long as their innocence is not established, it is just as well to treat them with caution. The common nightshade (*Solanum nigrum*), often found about houses, is more certainly dangerous. Young children, unless prevented, are almost sure to eat the berries of the bitter-sweet, attracted by their brilliant and luscious appearance. The bright blue, showy flowers bear a striking resemblance to those of potato. The thorn-apple (*Datura stramonium*) always found growing in waste places may be known by its morning-glory-like flowers, white, shaded with violet, its large, spiny seed pods, and its most offensive odor. As with the potato, the bitter-sweet, and other members of the genus *Solanum*, the leaves are always found perforated by insects. The seeds are said to have been used by the Delphic priests to excite their mad ravings, which the Greeks understood as prophecies.

In the order Liliaceæ, we have the American white hellebore (*Veratrum viride*), the root of which is a deadly poison. The plant is known familiarly as Indian poke, and has coarse fibrous roots, and elegantly plaited leaves, which in early spring may be seen by the banks of streams, generally in company with the skunk-cabbage, from which, however, it is easily distinguishable. The latter throws up its curiously painted, shell-like spathe in early April or even in March, the flower preceding the leaves, while the hellebore blooms in the summer, and has a tall upright spike of greenish flowers, in no respect resembling those of its neighbor. The active principle contained, is the alkaloid veratria, used to some extent in medicine.

The jack-in-the-pulpit (*Arisæma triphyllum*) is found in similar localities and, although not strictly a poison, its root is very acrid and caustic, as the children with the average propensity for investigation have discovered to their cost. The disgusting odor of the skunk-cabbage (*Symplocarpus fœtidus*) must always preclude similar experiments. Both of these plants belong to the order Araceæ, of which the sweet flag (*Acorus calamus*) is also a member.

Certain of the fig-worts (*Scrophulariaceæ*) are narcotic poisons, but I know of none which need any special mention. The dogbanes (*Apocynaceæ*) belong to a poisonous family of which it is well to be careful, although, so far as I am aware, our two pretty species need not be avoided. They have a milky acrid juice, as do the Euphorbias to which the same remarks apply. In the (*Urticaceæ*) we have the hemp (*Cannabis sativa*) which, in the east, yields the well known drug called hasheesh. In our climate, I believe this poison is not developed. The nettles belong to the same family but it is unnecessary to point out the eminent propriety of handling these with gloves, as some of them are provided with stinging hairs. According to Scott, they are when young used as greens in Scotland and cultivated for that purpose. (Rob Roy, Chap. 8).

The Indian tobacco so much used by quacks, is *Lobelia inflata*, a common little plant in open fields, with light blue flowers and inflated pods. The blossoms are very much smaller than those of the cardinal flower (*Lobelia cardinalis*), but of the same general appearance. All the lobelias are poisonous, and are much too recklessly employed by those who have little knowledge of their power. It is said by Darlington that the quacks give the name of *high*-belia to the cardinal flower to distinguish it from *low*-belia. This gives some idea of the amount of their learning.

There are some others of our native plants which possess an acrid juice, but I think I have now mentioned all that should be known with the exception of certain fungi with which I am not familiar. Among the grasses, there is but one, the darnel (*Lolium temulentum*), that has the reputation of being noxious, and late investigations appear to throw much doubt upon previous statements in regard to it. The *Kalmia latifolia* in Ericaceæ has been said to poison cattle, but the assertion has not been proved.

In reviewing the plants now mentioned, we find three that are poisons to the touch, *Rhus venenata*, *Rhus toxicodendron* and the nettles (*Urticæ*). The following are narcotic irritants, *Veratrum*, *Aconitum*, *Cicuta*, *Conium*, *Datura*, *Atropa*, *Lobelia*. The buttercups are acrid and caustic, as are the *Araceæ*, while Coptis is simply bitter.

I have been able to offer but a sketch of our poisonous plants, and may have omitted to mention a few. I have been surprised in studying them to find how little appears to have been written about them except as regards their medicinal effects, and how this little is distributed in many different books. I cannot close this article without a renewed warning against the reckless use of herbs whose effects may be deleterious or even fatal.

A GLIMPSE AT COLORADO AND ITS BIRDS.

BY C. E. AIKEN.

Early this morning, the 17th of October, as I was riding past Beaver Creek, a large and beautiful mountain stream that flows through portions of El Paso, Fremont and Puebla Counties, my attention was attracted by a great twittering among the feathered tribe in an enclosure on the creek bottom. As there seemed to be an unusually large congregation of species for this season of the year, I dismounted from my pony, and leaning upon the cottonwood rail-fence, I watched the birds for nearly an hour, noting the different varieties, and observing the actions of each.

Immediately in front of me was a low, dense, wild-plum thicket, overrun and interwoven with hop-vines, but at this season nearly stripped of its leaves; and it seemed this morning as though each fallen leaf had been replaced with a little feathered songster. At least a dozen species were represented; but the white-crowned sparrows were by far the most numerous, and the singing or twittering of these it was, that first drew my attention.

Beyond this thicket, a thrifty growth of cottonwood extended along the banks of the creek from right to left, from the midst of which the songs of numerous robins, and of one or two other birds, rang out as clear and joyous as in early springtime. Many of the trees had their trunks encased in wild grape or hop-vines, and most of them were bare of leaves; but occasionally a tree clothed in a bright yellow foliage relieved the monotony and beautified the view. A high, rocky, barren ridge that formed the west